



Continued
SANYO



All fasteners subject to metric dimension of International Organization for Standardization.

Solid State FM/AM Portable Radio

MODEL 10F-821N

SERVICE MANUAL

SANYO ELECTRIC CO., LTD.

INTERNATIONAL DIVISION; SANYO ELECTRIC TRADING CO., LTD. OSAKA, JAPAN.



SPECIFICATIONS

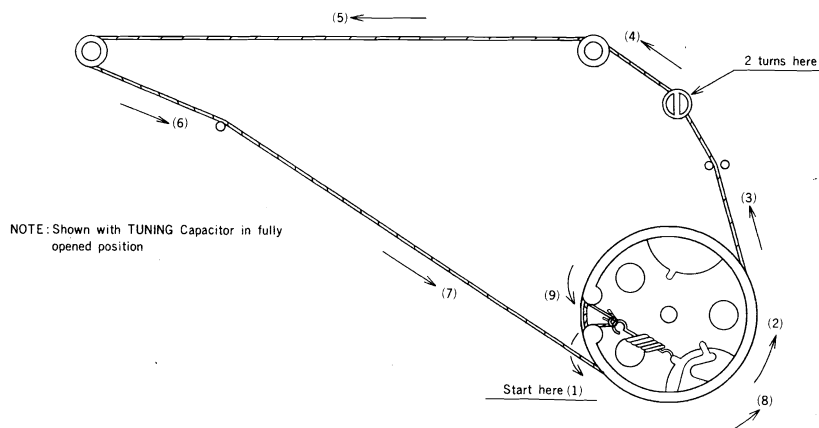
Frequency Range	FM 87.5 - 108 MHz	Battery	Four 1½V standard penlite batteries
	MW 510 - 1605 KHz	Current Drain	No signal 19 mA
Intermediate Frequency	FM 10.7 MHz		Maximum 135 mA
	MW 455 KHz	Loudspeaker	4" x 2½" permanent dynamic type
Sensitivity (for 50 mW output)	FM (30 dB S/N) 7µV		8 ohm voice coil impedance
Output Power	Maximum 500 mW	Dimensions	7-1/8" wide x 4-5/8" high x 2-1/8" deep
	Undistorted 350 mW	Weight	23 ozs.
		Outlet	for low-impedance earphone & for external 6V DC

ALIGNMENT PROCEDURES

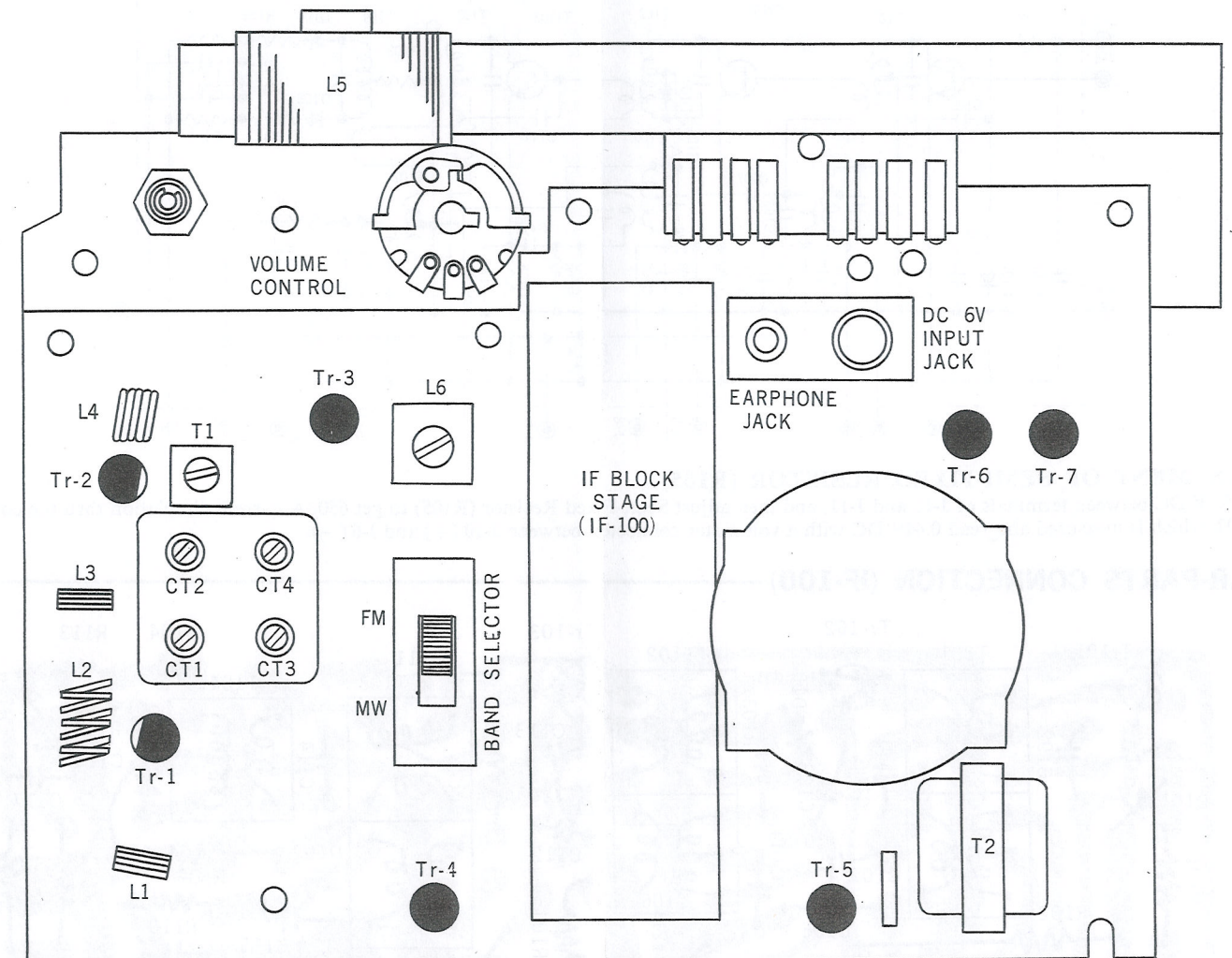
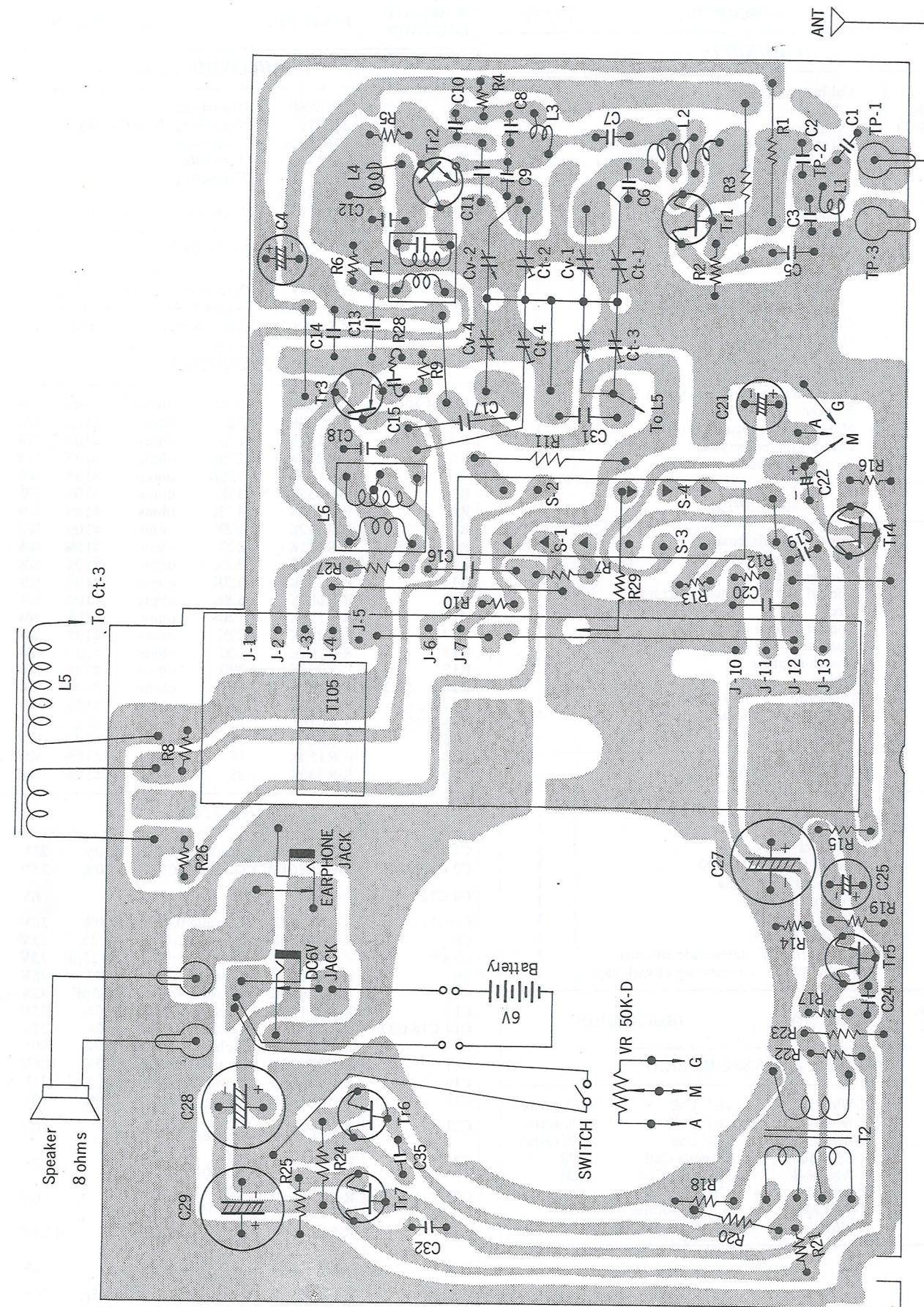
PROCEDURES	POSITION OF BAND SWITCH	SIGNAL INPUT	FREQUENCY OF SIGNAL GEN.	DIAL SETTING OF RADIO	COMPONENTS TO BE ADJUSTED
MW BAND	MW	IRE Loop	505 KHz	Lowest end	Osc. coil L6
	"	"	1650 KHz	Highest end	Osc. trimmer Ct-4
	"	"	570 KHz	570 KHz	Ant. coil L5
	"	"	1400 KHz	1400 KHz	Ant. trimmer Ct-3
MW IF STAGE	"	"	570 KHz	570 KHz	IFT of IF Block T105
FM BAND	FM	Dummy Ant	87 MHz	87 MHz	Osc. coil L4
	"	"	108 MHz	108 MHz	Osc. trimmer Ct-2
	"	"	88 MHz	88 MHz	VHF. coil L2
	"	"	108 MHz	108 MHz	Ant. trimmer Ct-1
FM IF STAGE	"	"	88 MHz	88 MHz	IFT T1

This radio incorporates a completely line-upped IF block stage, so that any arrangement shall not be required in ordinary servicing. When there is some faulty evident in IF block stage, it may be replaced by new one.

DIAL CORD STRINGING



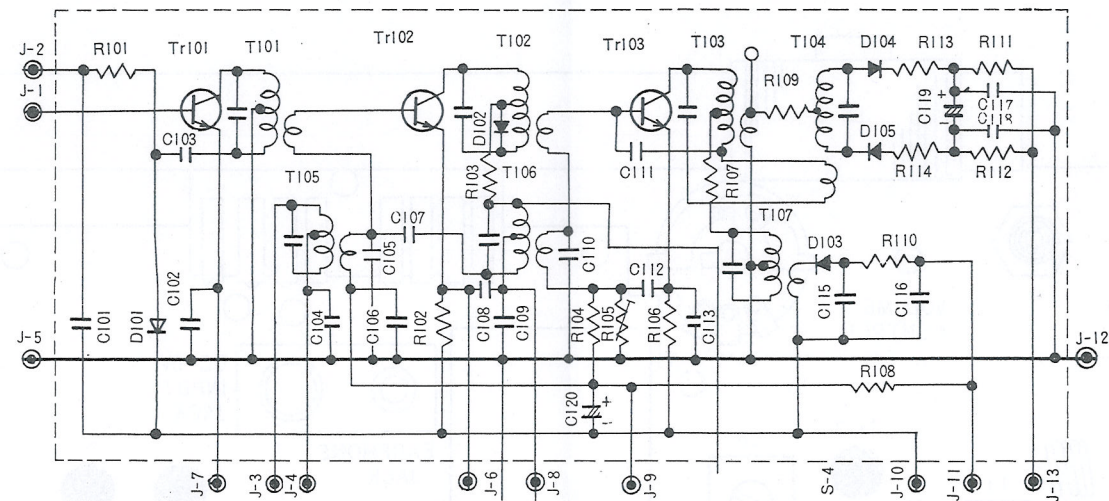
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PARTS LIST

PART NO.	DESCRIPTION	
(MAIN PARTS OF IF-100)		
2SC545C	Transistor	Tr101 Tr103
2SC545D	"	Tr102
1S188	Diode	D101 D102 D103
1S188	Diode (pair)	D104 D105
R-41622a	Printed Circuit Board	
R-W5T308	IF Transformer	FM T101 T102
R-W5T309	IF Transformer	FM T103
R-W5T310	IF Transformer	FM T104
R-W5T311	IF Transformer	AM T105 T106
R-W5T312	IF Transformer	AM T107
R-R11011	Semi-fixed Resistor	100K R105
R-C9131 or R-C9154	Electrolytic Capacitor	5μF 3V C119
R-C9132 or R-C9153	Electrolytic Capacitor	10μF 3V C120

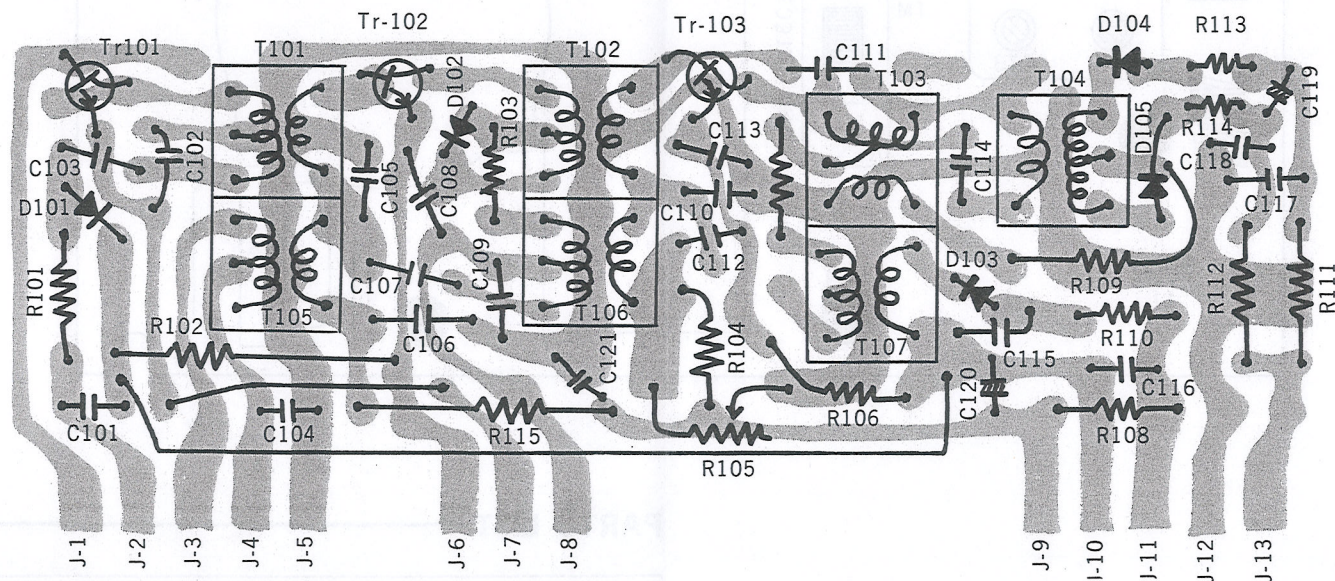
CIRCUIT DIAGRAM (IF-100)



ADJUSTMENT OF SEMI-FIXED RESISTOR (R105)

Apply 5.5V DC between terminals of J-10 and J-11, and then adjust Semi-Fixed Resistor (R105) to get 650μA current circulation thru the collector of Tr102, which is measured and read 0.44V DC with a volt-meter connected between J-10 (+) and J-6 (-).

INTER-PARTS CONNECTION (IF-100)



PARTS LIST (IF-100)

RESISTORS & CAPACITORS

SYMBOL NO.	DESCRIPTION
(FIXED VALUE RESISTORS)	
R101	6.8K ±20% ¼W Carbon-film
R102	680 ±10% " "
R103	150 ±20% " "
R104 R108	10K " " "
R106 R113	1K ±10% " "
R107	150 ±20% " "
R109	270 " " "
R110	1K " " "
R111 R112	4.7K ±10% " "
R114	1K " ¼W "

SYMBOL NO.	DESCRIPTION
(FIXED VALUE CAPACITORS)	
C101 C102 C104 C109	0.01μF +80% 25V Ceramic
C112 C115 C121	" " " "
C103	10pF ±10% 25V "
C105	0.005μF ±20% " Rutyl
C106 C108 C113	0.02μF +80% " Ceramic
C107	2pF ±0.25pF " "
C110 C117 C118	0.001μF ±20% " Rutyl Disc
C111	1pF ±0.25pF " Ceramic
C114	30pF ±10% " "
C116	0.01μF ±20% " Rutyl

PARTS LIST

PART NO.	DESCRIPTION	Q'TY
(CABINET)		
R-A	Cabinet Assembly	1
R-31814Mb	Cabinet	1
2-146R181-03	Dial Scale	1
R-262582	Metal Trimming, upper on dial scale	1
R-262583	Metal Trimming, lower on dial scale	1
R-262198	Badge	1
R-261719a	Metal Ribbon	1
R-31815C	Back Cover	1
R-35235	Holder, telescopic antenna	1
R-471919	ISO Label	1
R-261771	Model No. Sheet	1
R-S81484	Lid, battery compartment	1
R-D42102	Open-pore Cushion, 25x15x8t	2
R-S81482	Knob	2
R-S81559b	Handle Assembly	1
R-241417a	Stud Screw, handle mtg.	2
R-D42103	Ethylene Washer, handle mtg.	4
R-15310	Special Screw, back cover mtg.	2
R-S81970	Pointer	1
R-12400a	Metal Mount, speaker mtg.	1
R-12011	Clamp Lug, battery lead	1
R-471400b	Battery Instruction	1
(CHASSIS)		
R-41621i	Printed Circuit Board	1
R-39426a	Plastic Chassis	1
R-S81480	Tuning Shaft	1
R-S7089	Special Nut - tuning shaft mtg	1
R-39451	Drum	1
R-S7083	Special Screw - drum mtg	1
R-44065	Cushion - tuning capacitor mtg	1
R-15113a	Tension Spring	1
R-27065a	Pulley	2
R-	Dial Cord 0.3φ tetron 750mm	1
R-31820	Knob Cap - slide switch	1
R-311145	Plastic - on P.C.Board	1
(MISCELLANEOUS)		
R-S6391a-1	Speaker 3"x5" 8 ohms	1
R-S6222a	Earphone	1
IF-100	IF Block Stage	1
R-113143e	Shield Case - IF-100	1
R-S1307d	Telescopic Antenna	1
R-S2173a	Composite Jack	1
R-S1027a	Snap Terminal	1
R-S81265b	Battery Holder	1
R-23676	Lug Terminal - telescopic antenna	1
R-25239a	Spring Wire - grounding of vari. cap.	1
SCHEMATIC LOCATION	PART NO.	DESCRIPTION
(COILS & TRANSFORMERS)		
L1 L3	R-W9018	VHF Coil 6½ turns
L2	R-W9034	VHF Coil 1½ turns
L4	R-W9003	VHF Coil 3½ turns
L5	R-S81406e	Antenna Coil AM
L6	R-W8206-4	Oscillator Coil AM
L2	R-W9027	VHF coil
T1	R-WST336-3	IF Transformer FM
T2	R-W6255P-2	Input Transformer

SCHEMATIC LOCATION	PARTS NO.	DESCRIPTION
(SEMICONDUCTORS)		
Tr1	2SC668D	Transistor
Tr2	2SC772	Transistor (B or C rank)
Tr3	2SA101 x	Transistor
Tr4	2SB171B	Transistor
Tr5	2SB171B or 2SB185AA	Transistor
Tr6 Tr7	2SB187	Transistor (brown marking)
(CONTROLS)		
Cv	R-C1119	Variable Capacitor - tuning capacitor
VR	R-R11686a	Variable Resistor - volume control
	R-S4268-2	Slide Switch - band select
(RESISTORS)		
R1 R4 R9	R-R222K	2.2K ohms ±10% ¼W
R2	R-R563K	56K ohms ±10% ¼W
R3	R-R121K	120 ohms ±10% ¼W
R5	R-R274K	270K ohms ±10% ¼W
R6	R-R154K	150K ohms ±10% ¼W
R7	R-R333K	33K ohms ±10% ¼W
R8	R-R472K	4.7K ohms ±10% ¼W
R10	R-R152K	1.5K ohms ±10% ¼W
R11 R16 R27	R-R221K	220 ohms ±10% ¼W
R12	R-R392K	3.9K ohms ±10% ¼W
R13	R-R332K	3.3K ohms ±10% ¼W
R14	R-R682K	6.8K ohms ±10% ¼W
R15	R-R124K	120K ohms ±10% ¼W
R17	R-R223K	22K ohms ±10% ¼W
R18	R-R101K	100 ohms ±10% ¼W
R19	R-R391K	390 ohms ±10% ¼W
R20 R22 R29	R-R102K	1K ohms ±10% ¼W
R21 R23	R-R680K	68 ohms ±10% ¼W
R24 R25	R-R010J	1 ohms ±5% ¼W
R26	R-R560K	56 ohms ±10% ¼W
R28	R-R150K	15 ohms ±10% ¼W
R30	R-R330K	33 ohms ±10% ¼W
(CAPACITORS)		
C1 C3	R-CKS100K	Ceramic 10pF ±10% 25V
C2 C10 C24	R-CKS501M	Ceramic 500pF ±20% 25V
C4 C22	R-C9131	Electrolytic 5μF 6V
C5 C11	R-CKS102Z	Ceramic 0.001μF +80% 25V
C6	R-CKS020K	Ceramic 2pF ±0.25pF 25V
C7 C9	R-CKS030K	Ceramic 3pF ±0.25pF 25V
C8	R-CKS300K	Ceramic 30pF ±10% 25V
C12	R-CKS040K	Ceramic 4pF ±0.5pF 25V N3300
C13	R-CKS103Z	Ceramic 0.01μF +80% 25V
C14 C16 C32	R-CKD203Z	Ceramic 0.02μF +80% 25V
C15	R-CQS502M	Mylar 0.005μF ±20% 50V
C17	R-CQT311K	Styrol 310pF ±10% 125V
C18	R-CKS180K	Ceramic 18pF ±10% 25V N1000
C19	R-CQS103M	Mylar 0.01μF ±20% 50V
C21	R-C9140	Electrolytic 0.3μF 10V
C25	R-C9133	Electrolytic 30μF 3V
C27	R-C9143	Electrolytic 200μF 6V
C28	R-C9318-2	Electrolytic 220μF 12.5V
C29	R-C9136	Electrolytic 100μF 6V
C31	R-CKS050K	Ceramic 5pF ±0.5pF 25V
C34 C35	R-CKS203Z	Ceramic 0.02μF +80% 25V